

Wednesday, March 30, 2011

IEP and Cal-Neva Registration

7:00 AM-5:00 PM
Sierra Hallway

IEP Poster Set-Up

7:00 AM-5:00 PM
Lakes Ballroom

Interagency Ecological Program (IEP) Annual Workshop

Cost: \$65.00

Description: The 2011 IEP Annual Workshop is held as an all-day symposium during the 45th Annual Conference of the California-Nevada Chapter of the American Fisheries Society. For more information about the IEP, see <http://www.water.ca.gov/iep/>.

Session 1: The IEP and the Bay-Delta in a Changing World (Moderator: Anke Mueller-Solger)

Location: Pavilion

8:30-8:40 AM

Welcome and introductory remarks. Anke Mueller-Solger, Delta Stewardship Council/IEP, Sacramento

8:40-9:00 AM

Wither IEP? Greater need, fewer resources. Bruce Herbold, U.S. Environmental Protection Agency, San Francisco

9:00-9:20 AM

Habitat characteristics of past Delta landscapes: Knowledge for improving future ecosystem resilience. Alison Whipple, San Francisco Estuary Institute, Oakland

9:20-9:40 AM

Implications for future survival of delta smelt from four climate change scenarios for the Sacramento-San Joaquin Delta, California. Larry Brown, U.S. Geological Survey, Sacramento

9:40-10:00 AM

Remote sensing of water quality parameters in the upper San Francisco Estuary. Erin Hestir, University of California-Davis, Davis

10:00-10:20 AM

Break

Session 2: Changing Habitats and Food Webs (Moderator: Randy Baxter)

10:20-10:40 AM

How did I get here? Tinkering with turbidity, tides, and twilight for migrating delta smelt. William Bennett, University of California-Davis, Davis

10:40-11:00 AM

Diatom blooms observed in Suisun Bay during spring 2010; how did ambient nutrients play a role? Richard Dugdale, San Francisco State University, Romberg Tiburon Center, Tiburon

11:00-11:20 AM

Zooplankton feeding ecology: Using experimental and genetic approaches to compare the diets of nauplii and adults of two carnivorous copepods in the San Francisco Estuary. Carrie Craig and Robert Vogt (joint presentation), San Francisco State University, Romberg Tiburon Center, Tiburon

11:20-11:40 AM

Genomic profiling in delta smelt (*Hypomesus transpacificus*): Site-specific signatures. Richard E. Connon, University of California-Davis, Davis

IEP Poster Session: Introductions (Moderator: Lenny Grimaldo)

11:40 AM-12:00 PM

All poster presenters

12:00-1:30 PM

Lunch

Session 3: Where the Wild Things Are: Nearshore Fishes of the Sacramento-San Joaquin Delta, Part 1 (Moderator: Fred Feyrer)

1:30-1:50 PM

Evidence of apparent behavioral shifts in young striped bass *Morone saxatilis* in the San Francisco Estuary. Ted Sommer, California Department of Water Resources, West Sacramento

1:50-2:10 PM

Past and present nearshore fish assemblages of the Sacramento - San Joaquin Delta. Brett Harvey, California Department of Water Resources, West Sacramento

2:10-2:30 PM

Patterns of largemouth bass abundance and growth across the Sacramento - San Joaquin Delta. Louise Conrad, California Department of Water Resources, West Sacramento

2:30-2:50 PM

Does submerged aquatic vegetation affect largemouth bass diet composition and growth rates in the Sacramento-San Joaquin Delta? Kelly Weinersmith, University of California-Davis, Davis

2:50-3:10 PM

Modeling shallow-water piscivore-prey dynamics in California's Sacramento-San Joaquin Delta. Matt Nobriga, U.S. Fish and Wildlife Service, Sacramento

3:10-3:30 PM

Break

Session 4: Where the Wild Things Are: Nearshore Fishes of the Sacramento-San Joaquin Delta, Part 2 (Moderator: Louise Conrad)

3:30-3:50 PM

Life history of the warmouth sunfish in the Sacramento-San Joaquin Delta. Denise de Carion, University of California-Davis, Davis

3:50-4:10 PM

Comparison of fish assemblages in four flooded islands of the Sacramento-San Joaquin Delta. Matthew Young, University of California-Davis, Davis

4:10-4:30 PM

Recruitment variability of largemouth bass along environmental gradients in the Sacramento - San Joaquin Delta. Frederick Feyrer, U.S. Bureau of Reclamation, Sacramento

4:30-4:50 PM

Growth and nutritional status of largemouth bass, *Micropterus salmoides*, in the Sacramento - San Joaquin Delta. Shawn Acuña, University of California-Davis, Davis

4:50-5:10 PM

Growth rate variability and recruitment dynamics in largemouth bass. Jim Hobbs, University of California-Davis, Davis

5:10-5:20 PM

Break

IEP Poster Session and Reception

5:20 - 7:30 PM

Lakes Ballroom

Thursday, March 31, 2011

Cal-Neva Registration

7:00 AM–5:00 PM
Sierra Hallway

Cal-Neva Poster Set-Up

8:30 AM–5:00 PM
Pavilion

Vendor Set-Up & Display

8:30 AM–5:00 PM
Pavilion

Continuing Education and Cal-Neva Chapter Symposia

Continuing Education 1: State and Federal Permit Requirements and Procedures to Conduct Fish Monitoring and Research in California

Time: 8:30 AM–5:00 PM

Instructors: Mr. Jeffrey Jahn, National Marine Fisheries Service; and Dr. Russell Bellmer, Ms. Eloise Tavares, and Mr. Sunil Rajappa, California Department of Fish and Game

Location: Folsom Room

Capacity: 25 attendees

Cost: \$90.00 (\$100.00 for non-members; \$40.00 for students)

Course Description: Authorization is required to conduct research that involves take of anadromous fishes, freshwater fishes and freshwater invertebrates. This workshop provides an overview of the definition of take, types of California Department of Fish and Game (CDFG) and National Oceanic and Atmospheric Administration (NOAA) Fisheries permits such as Scientific Collecting Permit (SCP), MOUs, 4(d), and Section 10(a)(1)(A). This hands-on-training will provide information to help you navigate your way through the state and Federal research permitting processes. Attendees will learn about the activities that can be authorized by a SCP, 4(d) and/or Section 10, the information that is needed for the reviewers to make the necessary decisions while processing your applications, how to provide a complete application to avoid delays in processing time, activities that are not authorized by a SCP, 4(d) and/or Section 10 and how to get those activities permitted. They will also have the opportunity to create a mock 4(d) research permit in the APPS website, complete a SCP application, meet the processors of these permits and have questions answered during this joint training session as NOAA and

CDFG present the basics of acquiring proper authorization(s). Program materials will be provided along with specific examples.

About the Instructors: (1) Jeffrey Jahn (Fishery Biologist / Regional ESA Research & Enhancement Coordinator, National Marine Fisheries Service) received a self-designed Bachelor of Science degree in Biology with an emphasis in fishery biology and freshwater ecology from Humboldt State University. He began his career as an AmeriCorps Watershed Stewards Project member, and now has over 16 years of experience working with salmonids in California. Jeffrey worked several years for the California Department of Fish and Game and the United States Fish & Wildlife Service, and is currently a Fishery Biologist with NOAA's National Marine Fisheries Service. He has extensive field experience, has several years of experience with Endangered Species Act permitting of research and enhancement activities, and is the regional lead for the development and management of the online application system for section 4(d) and 10 research authorizations. (2) Russell Joe Bellmer, Ph.D., is currently a Supervisory Senior Environmental Scientist in the Fisheries Branch, California Department of Fish and Game in Sacramento, CA, (RBellmer@dfg.ca.gov e-mail address). He received his BS in Biological Sciences (Ecology) from the University of California, his MS in Environmental Sciences (Ecology) from California State University, and his Ph.D. in Marine Ecology (Marine Pollution) from Clark University. He has a California Community College Teaching Certification (Biology, Ecology, and Marine Science) and taught at the college and university level for several years. Dr. Bellmer is a Scientific Research Diver/Instructor since 1971, a past president of AFS Cal-Neva Chapter, and has held numerous professional positions including: Marine Ecologist, RJB Ecological Consultants; Project Leader/Supervisory Fisheries Biologist, USFWS, Stockton; Marine Ecologist/Research & NRDA Restoration Programs Manager, NOAA Fisheries; Chief of Endangered Species Division, NOAA Fisheries; and Marine Ecologist, ACE Environmental Review Division, Washington, DC; to name a few. (3) Eloise Tavares is an Associate Biologist for the Department of Fish and Game. Since 1978, Eloise has served as the Fisheries Branch lead person responsible for the 4d research and Scientific Collecting Permits (SCP) programs. Eloise was instrumental in helping streamline and improve the Memorandum of Understanding process and in submitting a proposal to implement a new on-line SCP system. She holds a BS in Math and a Master's Degree in Public Policy and Administration. She now is an Environmental Scientist for the South Coast Region, Department of Fish and Game working on invasive species issues. (4) Sunil Rajappa currently works in the Scientific Collecting Permits (SCP) Unit of the Department of Fish and Game's Fisheries Branch. In the process of reviewing and processing SCPs he facilitates coordination between applicants, DFG Regions, and Headquarters. He also assists DFG Biologists with field data collection as needed. Sunil holds a B.A. in Environmental Studies, has worked for environmental consulting firms in Sacramento and the North Bay Area, and has volunteered with environmental non profits abroad.

Continuing Education 2: Power-Based Standardization in Electrofishing

Time: 8:30 AM-12:30 PM

Instructor: Dr. James Reynolds, University of Alaska-Fairbanks (Professor Emeritus), Great Basin College (Instructor), and Northwest Environmental Training Center (Instructor)

Location: Natoma Room

Capacity: 25 attendees

Cost: \$45.00 (\$50.00 for non-members; \$20.00 for students)

Course Description: The recent AFS book, "*Standard Methods for Sampling North American Freshwater Fish*", emphasizes the growing importance of sampling standardization in fisheries science and management. Standardization of electrofishing, a common sampling method, requires an understanding of electrical principles, particularly power transfer theory. This continuing education course will present the theory and practice of power standardization in electrofishing. This half-day course will be presented in three 70-minute sessions with two intervening 15-minute breaks. Basic electrical principles, including power transfer, will be covered in the Session 1; elements of power-based standardization in Session 2; and development of standardized power procedures in Session 3. The course will give participants an overview of the proper approach to the standardization of electrofishing, regardless of method (e.g., boat, backpack).

About the Instructor: Jim Reynolds received a B.S. in Wildlife Management from Utah State University and M.S. and Ph.D. degrees in Fisheries Biology from Iowa State University. In 1966 he began a research career, first with the U.S. Fish and Wildlife Service, then the U.S.

Geological Survey. After six years at the Great Lakes Fishery Laboratory (Ann Arbor, Michigan), he joined the Cooperative Research Unit (CRU) program, first as Assistant Leader at the Missouri CRU (University of Missouri, Columbia), then as Unit Leader at the Alaska CRU (University of Alaska, Fairbanks), retiring from federal service in 1999. During his career he focused on habitat ecology of stream and river fishes, and the theory and practice of electrofishing. He remained on faculty at UAF for several years before serving with the Peace Corps 2003-2005 in Fiji where he assisted village communities in developing marine protected areas. Jim now lives in northern Nevada and remains active in fisheries work, both with UAF as Professor Emeritus and as an instructor for Great Basin College (Elko, Nevada) and the Northwest Environmental Training Center (Seattle, Washington). His leisure time is devoted to packing llamas in the mountains of Nevada and Arizona.

Symposium 1: Bioengineering (Moderator: Margorie Caisley, California Department of Fish and Game)

Location: Sierra 1 Room

8:30–9:50 AM

SEFA – System for environmental flow analysis. Thomas Payne, Thomas R. Payne & Associates

8:50-9:10 AM

Hydraulic evaluation of cone screens at Red Bluff Interim Pumping Plant. Mark Gard, U.S. Fish and Wildlife Service

9:15-9:35 AM

Performance evaluation and lessons learned from two southern steelhead fish passage projects-- Santa Ynez River. Timothy Robinson, Cachuma Project Water Agencies

9:35-9:55 AM

The Napa River Rutherford Reach Restoration Project. Jorgen Blomberg, ESA PWA

10:00-10:30 AM

Break

Pavilion

10:30-10:50 AM

Fish habitat enhancements for Napa Creek Flood Protection Project. Ed Wallace, Northwest Hydraulic Consultants Inc.

10:50-11:10 AM

Performance evaluation and lessons learned from two southern steelhead fish passage projects – Santa Ynez River. Tim Robinson, Cachuma Project Water Agencies

11:15-11:35 AM

Redirective methods used to protect Geyserville Bridge, Russian River and NCHRP Report 544 – Environmentally sensitive channel and bank protection methods. John McCullah, CPESC Salix Applied Earthcare

11:35-11:55 AM

CFAAR: A new conceptual framework to guide development of stream corridor enhancement plans. Shawn Chartrand, Balance Hydrologics, Inc.

12:00-1:00 PM

Lunch

On Your Own

Symposium 2: Biological Objectives for Water Quality Regulation (Moderator: James Harrington, California Department of Fish and Game)

Location: Sierra 1 Room

1:00-1:30 PM

Monitoring the effects of DFG's Hot Creek Hatchery on the biotic integrity of its receiving water. James Harrington, California Department of Fish and Game

1:30-2:00 PM

Ecological condition assessments of California's perennial wadeable streams (2000 through 2007). Peter Ode, California Department of Fish and Game

2:00-2:30 PM

Developing stressor-response models in support of California biocriteria. Larry Brown, U.S. Geological Survey

2:30-3:00 PM

Evaluating Sierra Nevada watersheds, meadows, and streams. Peter Moyle, University of California-Davis

3:00-3:30 PM

Break
Pavilion

3:30-4:00 PM

Developing a macroinvertebrate index of biotic integrity (IBI for assessing ecological conditions of freshwater wetlands in California. Kevin Lunde, University of California-Berkeley

4:00-4:30 PM

An example of the challenges in using proximate biological objectives for water quality regulation: Strong effects of turbidity on fish feeding success. Bret Harvey, U.S. Forest Service

4:30-5:00 PM

Panel discussion on how biological objectives can support fisheries management. All Speakers

Reception

5:00 PM–7:00 PM

Pavilion

Cal-Neva Poster Session

5:00 PM–9:00 PM

Pavilion

Job Fair

6:00 PM–8:00 PM

Pavilion

Friday, April 1, 2011

Cal-Neva Registration

7:00 AM–5:00 PM
Sierra Hallway

Cal-Neva Poster Display

8:30 AM–5:30 PM
Pavilion

Annual Conference

Plenary Session: Fisheries Research and Management for a Changing World—
The Importance of Innovation, Adaptation, and Partnerships (Moderator: Michael
Saiki, U.S. Geological Survey)
Sierra Ballroom

8:20–8:30 AM
Welcome and Announcements

8:30–9:10 AM
The problem. Lee Miller, California Department of Fish and Game (retired)

9:10–9:30 AM
The fish scientist: Trustee responsibilities, credibility and ethics. Felix E. Smith, U.S. Fish
and Wildlife Service (retired)

9:50–10:20 AM
Break
Pavilion

10:20–10:50 AM
Forward to the future – or back? Anke Mueller-Solger, Delta Stewardship Council/IEP

10:50–11:20 AM
Vitamin C. Kevin Shaffer, California Department of Fish and Game

11:10–11:40 AM
Panel Questions and Discussion

11:40 AM–1:30 PM
Lunch

On Your Own

Chapter Business Meeting

12:00–1:00 PM

Lakes Ballroom

Technical Session 1: San Joaquin River Restoration Project. Moderator: Norm Ponferrada, National Marine Fisheries Service
Sierra 1 Room

1:30-1:50 PM

Will it work for fish? Interim flow results from the San Joaquin River Restoration Program.
Rhonda Reed, National Marine Fisheries Service

1:50-2:10 PM

Restoration of Reach 2B for fisheries: Habitat, passage and flows, opportunities, challenges and reality. Thomas Taylor, Cardno ENTRIX

2:10-2:30 PM

Reach 4B, Eastside Bypass and Mariposa Bypass Channel and Structural Improvements Project-- constraints and opportunities for lower San Joaquin River restoration. Joseph Merz, Cramer Fish Sciences

2:30-2:50 PM

Water quality monitoring. Michelle Banonis, U.S. Bureau of Reclamation

2:50-3:10 PM

SJRRP real time flow management. Dave Mooney, U.S. Bureau of Reclamation

3:10-3:40 PM

Break
Pavilion

3:40-4:00 PM

Developing a strategy to reintroduce spring-run Chinook salmon into the San Joaquin River.
Michelle Workman, U.S. Fish and Wildlife Service

4:00-4:20 PM

Central Valley salmon and steelhead recovery: Habitat must be expanded. Brian Ellrott, National Marine Fisheries Service

4:20-4:40 PM

Experimental populations. Elif Fehm-Sullivan, National Marine Fisheries Service

4:40-5:00 PM

Panel discussion

Technical Session 2: Native Fishes (Moderator: Victoria Poage, U.S. Fish and Wildlife Service)

Lakes Ballroom

1:30-1:50 PM

Current distribution, status and conservation of desert pupfish populations in California. Sharon Keeney, California Department of Fish and Game

1:50-2:10 PM

Unusual dominance by desert pupfish in a shallow experimental pond system. Barbara Martin, U.S. Geological Survey

2:10-2:30 PM

Removal of a desert pupfish population from temporary ponds at the Salton Sea. Sharon Keeney, California Department of Fish and Game

2:30-2:50 PM

Seasonal diets and availability of largemouth bass and Sacramento perch in small ponds near the California delta. Michael Hawley, California State University-East Bay

2:50-3:10 PM

Temperature effects on the blood-oxygen of hardhead minnow. Robert Coalter, University of California-Davis

3:10-3:40 PM

Break
Pavilion

3:40-4:00 PM

The use of radio telemetry in estimating fish entrainment rates. Ken Jarrett, Stillwater Sciences

4:00-4:20 PM

Evolutionary potential but not extinction risk of Lahontan cutthroat trout is associated with stream characteristics. Mary Peacock, University of Nevada-Reno

4:20-4:40 PM

The intersection of science and policy in the management of delta smelt. Victoria Poage, U.S. Fish and Wildlife Service

4:40-5:00 PM

Multiple runs of lamprey in the Russian River: One run twice or two runs once? Shawn Chase, Sonoma County Water Agency

Technical Session 3: Marine and Estuarine Fishes (Moderator: Cynthia LeDoux-Bloom, California Department of Water Resources)
Sierra 2 Room

1:30-1:50 PM

A comparison of surf fish species assemblage and abundance in southern California between 1953 and 2010. Thomas Keegan, ECORP Consulting, Inc.

1:50-2:10 PM

A history of South San Francisco Bay fishes below Dumbarton Pt. Nicholas Buckmaster, University of California-Davis

2:10-2:30 PM

Habitat use of striped bass estimated from otolith microchemistry in San Francisco Bay-Sacramento Delta Estuary, and their relation to total mercury and heavy metal body burden upon capture. Jonathan Walsh, Moss Landing Marine Laboratories

2:30-2:50 PM

Seasonal migration patterns of sub-adult striped bass and some factors that may trigger movement through the San Francisco Estuary. Cynthia LeDoux-Bloom, California Department of Water Resources

2:50-3:10 PM

Status and trends of San Francisco Estuary white sturgeon. Jason DuBois, California Department of Fish and Game

3:10-3:40 PM

Break
Pavilion

3:40-4:00 PM

Water salinity behavioral preferences of green sturgeon acclimated to fresh water and full-strength seawater. Jamilynn Poletto, University of California-Davis

4:00-4:20 PM

Ecological stoichiometry and fish abundance trends in the San Francisco-San Joaquin Bay-Delta. Patricia Glibert, University of Maryland

4:20-4:40 PM

[Vacant]

4:40-5:00 PM

[Vacant]

Reception

5:00–7:00 PM
Pavilion

Banquet

7:00–9:00 PM
Sierra Ballroom

Saturday, April 2, 2011

Spawning Run

6:25 AM

Participants meet near front desk at main entrance to Lake Natoma Inn. Race begins about 6:30 AM on the American River Parkway, 0.1 mile from hotel. Map of route will be provided.

Cal-Neva Registration

7:00 AM–12:00 PM

Sierra Hallway

Cal-Neva Poster Display

8:30-10:30 AM

Pavilion

Technical Session 4: Habitat Restoration (Moderator: Wayne Lifton, Cardno ENTRIX)

Sierra 1 Room

8:30-8:50 AM

Design and construction considerations with both large and small woody structures. Charley Miller, Cardno ENTRIX

8:50-9:10 AM

Let it loose: Inexpensive restoration techniques for rapidly increasing wood cover in California coho streams. Jennifer Carah, The Nature Conservancy

9:10-9:30 AM

Habitat restoration strategies for the Fall River and Hat creek in northern California. Andrew Braugh, California Trout

9:30-9:50 AM

Fish passage and habitat restoration on the Cosumnes River: Addressing limiting factors in the face of limited water. Donald Ratcliff, U.S. Fish and Wildlife Service

9:50-10:10 AM

Implementation and monitoring of a reach-scale rehabilitation project on the lower Mokelumne River, California. Robyn Bilski, East Bay Municipal Utility District

10:10-10:40 AM

Break

Pavilion

10:40-11:00 AM

Can marginalized human communities and salmon fisheries be partners in mutual restoration?
Gary Sargent, California State University-Hayward

11:00-11:20 AM

A multi-tiered catchment analysis of upper Redwood Creek, a small, trout-bearing, urban stream in Oakland, CA. Pamela Beitz, California State University-East Bay

11:20-11:40 AM

Mysid abundance and biomass in a restored tidal freshwater wetland. Caily Nelson, California Department of Water Resources

11:40-12:00 PM

The Salton Sea Species Conservation Habitat Project. Ramona Swenson, Cardno ENTRIX

Technical Session 5: Anadromous Salmonids (Moderator: James Hobbs, University of California-Davis)
Lakes Ballroom

8:30-8:50 AM

Do hatchery Chinook supplement naturally produced fish, or replace them? John Williams, Independent Consultant

8:50-9:10 AM

Comparison of recent and historic steelhead ladder counts on the Carmel River indicates an incorrect interpretation of historical data. Thomas Taylor, Cardno ENTRIX

9:10-9:30 AM

Can visual, vibratory or auditory fish deterrents repel juvenile Chinook salmon and prevent them from passing through an unscreened water diversion? Jon Reardon, University of California-Davis

9:30-9:50 AM

Do unscreened water diversion pipes entrain juvenile Chinook salmon? Timothy Mussen, University of California-Davis

9:50-10:10 AM

Determining the phenotypic composition of Feather River in-river spawning Chinook salmon with otolith strontium isotope ratios. James Hobbs, University of California-Davis

10:10-10:40 AM

Break
Pavilion

10:40-11:00 AM

Trinity River: Evaluating flows and rehabilitation on migratory salmon. Nina Hemphill, Trinity River Restoration Program

11:00-11:20 AM

Modeling to predict habitat capacity and evaluate feasibility of spring-run Chinook salmon and steelhead reintroduction in the upper Yuba River, California. A.J. Keith, Stillwater Sciences

11:20-11:40 AM

An individual-based model of flow, temperature, and habitat effects on salmon spawning, rearing, and outmigration. Steven Railsback, Lang Railsback & Associates

11:40-12:00 PM

Beaver--Implications of endangered steelhead management on the Lower Santa Ynez River. Scott Engblom, Cachuma Operation and Maintenance Board

Technical Session 6: Miscellaneous Papers (Moderator: Mark Gard, U.S. Fish and Wildlife Service)

Sierra 2 Room

8:30-8:50 AM

Global patterns of freshwater fish communities in Mediterranean biomes. Elif Fehm-Sullivan, National Marine Fisheries Service

8:50-9:10 AM

Rapid assessment of metal trace elements in blood, muscle, tissue, and otolith of sentinel fish species in the South Bay. Norm Ponferrada, University of California-Davis

9:10-9:30 AM

Assessment of western mosquitofish and sailfin mollies as ecological surrogates for monitoring selenium concentrations in desert pupfish. Barbara Martin, U.S. Geological Survey

9:30-9:50 AM

Invertebrate drift in seasonal and perennial Sacramento River tributaries. Gina Benigno, California Department of Water Resources

9:50-10:10 AM

Numbers + charts x graphs ÷ Y = saving our fisheries. Nica Knite, California Trout

10:10-10:40 AM

Break

Pavilion

10:40-11:00 AM

Empirical salmonid habitat suitability criteria and bioenergetics predictions compared. Craig Addley, Cardno ENTRIX

11:00-11:20 AM

Holistic instream flows in California rivers: balancing environmental, recreational, water supply and power generation water uses. Craig Addley, Cardno ENTRIX

11:20-11:40 AM

Green sturgeon experiments with screens, louvers, and potential enhancements to fish protection devices: Small-scale flume simulations. Dennis Cocherell, University of California-Davis

11:40-12:00 PM

Independent environmental baseline studies near the proposed Pebble Mine in Alaska. Kendra Zamzow, Center for Science in Public Participation, Sutton, AK